REMARKS

Claims 1-20 are pending in the present application, claims 14-20 having been added herein. The Office Action and cited references have been considered. Favorable reconsideration is respectfully requested. Applicant notes with appreciation the apparent indication that the claims present patentable subject matter over the prior art, in view of the lack of a rejection based on any prior art.

Claims 1-13 were rejected under 35 U.S.C. §101 as allegedly not falling within one of statutory categories of invention. This rejection is respectfully traversed for the following reasons.

Claim 1 recites a method for compressing and decompressing video image data of video image sequences, which are present as a sequence of respectively relevant pixel data in pixels that can be addressed two-dimensionally, wherein in each case the pixel data of selected pixel quantities are analyzed with mathematical functions and are compressed reduced to their function parameters and after storage and/or transmission are decompressed with a corresponding mathematical function such that they are largely regenerated. The method comprises performing a basic analysis of the video data of a video image including determining contours of image structures are determined on the basis of non-sequential changes in brightness and/or color value in the case of pixels that are adjacent to one another, performing, through interpolation, a smoothing and closure of contours, describing the contours that are found in this way in segments in each case through a parameterized mathematical function and defining the contours as objects, and assigning all objects that contain a number of pixels below a

predefinable threshold to a background, determining vectorially, for the individual

objects and the background, a color dominance and color progression in each case,

and determining vectorially the position and extent of the individual objects in each

case, determining, for the individual objects and the background, a structure function in

each case according to direction and size. The method further comprises, in the case

of sequence analyses of video images, the steps of determining, in each case, the

differential changes in brightness, size, position and orientation of the objects, taking

into account the common contours of objects that abut one another, arranging and

providing the objects and the background that are defined in this way, together with their

optical, positional and structural data that are obtained in this way, in a structured basic

frame or sequence frame, transforming the basic frame data and sequence frame data

that are provided accordingly into pixel data for decompression and image re-

processing, determining, from the basic frame data from the objects, their

corresponding contour position data in the pixel image, filling up, for the background of

the image and the objects, respectively delimited on the basis of the contour position

data, the pixel representation with pixel data corresponding to the given associated

structure function, reconstituting the pixel data corresponding to the given associated

structure in accordance with the color dominance value and the color progression vector

as well as the brightness value, and applying the sequence frame data in each case to

the previous pixel representation for displacement and/or alteration.

      Applicant respectfully submits that this claim fully comports with the

standards set out in *In re Bilski*, at least because it transforms matter into a different

state or thing. In particular, the claim is directed to a method which takes pixel data and transforms it into different pixel data. A "pixel" is defined as "1: any of the numerous small discrete elements that together constitute an image (as on a television screen) 2 : any of the detecting elements of a charge-coupled device used as an optical sensor." *Webster's Third New International Dictionary, Unabridged.* Merriam-Webster, 2002. http://unabridged.merriam-webster.com (9 Nov. 2009). The claim recites "pixel data" which would be understood by one of ordinary skill in the art to represent pixels, which as defined above, are part of a machine. Thus, the method of the present invention which involves transforming pixel data into different pixel data, involves a "machine" and transforming matter into a different state or thing. *See, Bilski v. Kappos*, Appeal. No. 08-964, Brief for Respondent, at 38 ("the machine-or-transformation definition may readily encompass most software claims because such claims could be said to concern the use of a machine (*i.e.*, the computer itself) or involve a transformation of matter (*i.e.*, the writing and re-writing of data, represented by magnetic changes in the substrate of a hard disk or the altered energy state of transistors in a memory chip)").

One of claimed steps is "transforming the basic frame data and sequence frame data that are provided accordingly into pixel data for decompression and image re-processing." Thus, this step specifically recites transforming matter into a different state or thing. The step of "reconstituting the pixel data…" also recites transforming something into something else. This is not a case in which the claims are directed to "a method of organizing human activity, divorced from any kind of technology,…" *Id.* at 22. The claims are directed to a technological field – that of "compressing and

decompressing video image data of video image sequences." Under the standard of

Bilski, and indeed under the standard advanced by the government in the Supreme

Court appeal of *Bilski* ("a process may be eligible for patent protection if, taken as a

whole, it concerns the operation of a particular machine or apparatus or effects a

transformation of matter into a different state or thing", *Id.* at 33)[1], the present claims

meet the standard and are patent eligible under 35 U.S.C. § 101. For the Examiner's

convenience, a copy of the Respondent's brief in *Bilski* filed in the Supreme Court is

attached.

Further, Applicant respectfully submits that when the claim as a whole is

understood by one of ordinary skill in the art, particularly, after reading Applicant's

specification, it would be understood to relate to a series of steps that cannot be, nor

were they intended to be, completely performed mentally, verbally, or without machine,

as alleged by the Examiner. The specification states that "[s]ince the functions to be

used are elementary and can be carried out by conventional computers at high speed

as fixed point operations, from the structure data the pixel data can be generated in the

run time of image reproduction; decompression is completely unproblematic." It also

states: "[i]n determining the contour data, smoothing etc., more attention is paid to a

high resolution of moved foreground objects than to the background and the passive

objects, in that different maximum computing times are accorded to objects respectively

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[1] Applicant does not necessarily agree that this is the proper test under the
Constitution and the patent laws, and awaits the Supreme Court's decision on this
issue. However, for purposes of this argument, Applicant admits that this is the test
currently applicable as set forth in the Federal Circuit's *Bilski* decision.

for processing." Finally, the specification states: "[f]urthermore, the minimum number of pixels for which an object is defined is respectively adapted to computing time that is still available. The largest objects are processed first, and where there is still computing time for an image time, smaller objects are separated out of the background and described in detail, geometrically and structurally, and placed into the frame." While it is clear that portions of the specification are not to be read into the claims, the claims must be interpreted in light of the specification. Thus, the specification makes clear that the claims do involve more than simply an abstract idea, law of nature, or natural phenomena.

For at least these reasons, Applicant respectfully submits that claim 1 meets the requirements of 35 U.S.C. § 101.

Claims 2 and 3 recite, *inter alia*, storing the objects and structure functions of claim 1 in a neural network. This claim thus recites a method which is tied to a machine, since to perform the step of storing, there must be a storage medium into which the objects and structure functions are stored.

Claims 4-15 depend from and include the limitations of claims 1 and/or 2-3. Applicant respectfully submits that these claims are patent eligible under 35 U.S.C. § 101, at least for the reasons discussed above with respect to claims 1-3.

Claims 16-19 recite that the claimed method is implemented on a computer by instructions stored on a computer readable medium and configured to implement the steps of the method, and claim 20 recites that the pixel data is displayed on a computer display. Applicant respectfully submits that these claims are patent

eligible, not only because they depend from claim 1 and/or 2-3, but also because they clearly recite a machine to which the claimed method is tied.

For at least these reasons, withdrawal of this rejection is respectfully requested.

In view of the above amendment and remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections of record. Applicant submits that the application is in condition for allowance and early notice to this effect is most earnestly solicited.

If the Examiner has any questions, he is invited to contact the undersigned at 202-628-5197.

Respectfully submitted,

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